

REMARKS

It is noted with appreciation that claims 5 and 6 are deemed allowable.

Favorable consideration and allowance are respectfully requested for Claims 1-6 in view of the foregoing amendments and the following remarks.

Responsive to the objection to the Abstract, a substitute Abstract of the Disclosure is attached. Accordingly, withdrawal of the objection is respectfully requested.

The foregoing amendments and the following remarks are directed towards the form of the claims, and it is noted that the amendments do not narrow the scopes of the claims.

Claims 1-4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Asakura et al. in view of Kubota et al. These rejections are respectfully traversed. The following is a comparison of the prior art and an explanation of how the claims patentably distinguish the invention over these references.

Asakura et al. does not disclose or suggest, among other features, a second optical rotation layer disposed between the image plane of said liquid crystal display and a second surface of said transparent plate, said second optical rotation layer being adapted to optically rotate the plane of polarization of the display light from the liquid crystal display by an angle of about 45° and to allow P-polarized or S-polarized light to emanate toward said first optical rotation layer. Asakura et al. discloses a display system in which light from a displaying device 6 is polarized to form P- or S-polarized light. The polarized light is then optically rotated 90° upon passing through an optical rotation film 2 which is capable of rotating the plane of polarization about 90° and thus prevents formation of a double image. The light coming from the displaying device 6 is merely polarized and is not optically rotated. There is no suggestion in Asakura et al. that the light emanating from the displaying device 6 should be optically rotated.

The deficiencies of Asakura et al. are not rectified by Kubota et al. Kubota et al. does not disclose or suggest, among other features, a second optical rotation layer disposed between the image plane of said liquid crystal display and a second surface of said transparent plate, said optical rotation layer being

adapted to optically rotate the plane of polarization of the display light from the liquid crystal display by an angle of about 45° and to allow P- or S-polarized light to emanate toward said transparent plate. Kubota et al. shows a liquid crystal display for generating a display light at a plane of polarization inclined by an angle of about 45° relative to the vertical axis of an image plane of the liquid crystal display. Kubota et al. is generally discussed in the description of the prior art in the specification at page 2, lines 14-19. The specification describes liquid crystal displays where the plane of polarization is generally oblique relative to a vertical axis and a horizontal axis of the image plane of the liquid crystal display in order to keep a bilateral symmetry of angle of visibility. Kubota et al. does not suggest that the light from the liquid crystal display is rotated in any manner. Thus, it is respectfully submitted that the claimed invention is patentably distinguishable over Asakura et al. in view of Kubota et al., as set forth above. Accordingly, withdrawal of the rejection is respectfully requested.

It is noted that the Office Action alleges that optical rotators are well known in the art. However, as an optical rotating film is disclosed in Asakura et al., as optical rotation film 2, it is not seen how this allegation of optical rotators being well known in the art renders the claimed invention obvious over Asakura et al. and Kubota et al.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claim limitations. As noted above, the combination of references does not teach or suggest all the claim limitations. In addition, it is seen that there is insufficient motivation to combine the references. As noted in the specification at page 2, lines 20-27, upon combining Asakura et al. and Kubota et al., it is impossible to prevent formation of a double image by using the conventional optical rotation film capable of rotating a plane of polarization about 90°. Thus, substituting a displaying device as in Kubota et al. into the system of Asakura et al. is undesirable and is not within the knowledge of persons of ordinary skill in the art. Finally, the combination of Asakura et al.

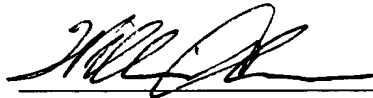
and Kubota et al. does not show a reasonable expectation of success. As stated above, the combination of a displaying device as in Kubota et al. with the system of Asakura et al. does not provide a reasonable expectation of success in that the conventional optical rotating films of 90° would render the modified system inoperable for its purpose. Therefore, the *prima facie* case of obviousness has not been established. Accordingly, withdrawal of the rejection is hereby respectfully requested.

In view of the foregoing amendments and remarks, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #3007/48504).

Respectfully submitted,



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MARKED-UP VERSION OF AMENDMENTS

IN THE SPECIFICATION

Please amend the specification as follows:

On page 3, please delete the second full paragraph and insert the following paragraph:

An aspect of the present invention resides in a display system, comprising a transparent plate. A liquid crystal display is provided for generating a display light of information. The display light has a plane of polarization inclined by an angle of about 45° relative to a vertical axis of an image plane of the liquid crystal display. A first optical rotation layer is disposed [to] on a first surface of the transparent plate. The optical rotation layer is adapted to receive the display light from the liquid crystal display and to optically rotate the plane of polarization of the display light by an angle of about 90°. A second optical rotation layer is disposed between the image plane of the liquid crystal display and a second surface of the transparent plate. The optical rotation layer is adapted to optically rotate the plane of polarization of the display light from the liquid crystal display by an angle of about 45° and to allow S-polarized light to [outgo] emanate toward the transparent plate at Brewster's [an] angle. The S-polarized light is reflected on a side of the second surface of the transparent plate to be directed toward an eye of an operator.

IN THE CLAIMS

Please amend claims 1, 3 and 5 as follows:

1. (Amended) A display system comprising:
 - a transparent plate;
 - a liquid crystal display for generating a display light of information, said display light having a plane of polarization inclined by an angle of about 45° relative to a vertical axis of an image plane of said liquid crystal display;
 - a first optical rotation layer disposed to a first surface of said transparent plate, said optical rotation layer being adapted to receive the display light from said liquid crystal display and to optically rotate the plane of polarization of the display light by an angle of about 90°; and

a second optical rotation layer disposed between the image plane of said liquid crystal display and a second surface of said transparent plate, said optical rotation layer being adapted to optically rotate the plane of polarization of the display light from the liquid crystal display by an angle of about 45° and to allow S-polarized light to [outgo] emanate toward said transparent plate at Brewster's angle, the S-polarized light being reflected on a side of the second surface of said transparent plate to be directed toward an eye of an operator.

3. (Amended) A display system comprising:

a transparent plate;

a liquid crystal display for generating a display light of information, said display light having a plane of polarization inclined by an angle of about 45° relative to a vertical axis of an image plane of said liquid crystal display;

a first optical rotation layer disposed to a second surface of said transparent plate, said optical rotation layer being adapted to optically rotate the plane of polarization of the display light incident thereon by an angle of about 90°, the display light from said first optical rotation layer being reflected on the second surface of said transparent plate and directed toward an eye of an operator; and

a second optical rotation layer disposed between the image plane of said liquid crystal display and a second surface of said transparent plate, said second optical rotation layer being adapted to optically rotate the plane of polarization of the display light from the liquid crystal display by an angle of about 45° and to allow P-polarized light to [outgo] emanate toward said first optical rotation layer at Brewster's angle.

5. (Amended) A display system comprising:

a transparent plate;

a liquid crystal display for generating a display light of information, said display light having a plane of polarization inclined by an angle of about 45° relative to a vertical axis of an image plane of said liquid crystal display, the display light being incident on a second surface of said transparent plate at Brewster's angle and reflected on a side of the second surface of transparent plate to be directed to an eye of an operator; and

an optical rotation layer disposed to a first surface of said transparent plate, said optical rotation layer being adapted to receive the display light from said liquid crystal display and to optically rotate the plane of polarization of the display light from said liquid crystal display by an angle of about 45° and to allow P-polarized light to [outgo] emanate therefrom.